



Caticorn Castle Math Mission

Use your subtraction and multiplication skills to find the hidden values of the sleeping cat and the flying unicorn to reveal the four-digit security code.

Name: _____ Date: _____

1 THE KEY

$$\diamond = \square \quad \heartsuit = \square \quad \blacklozenge = 5 \quad \blacklozenge = 9 \quad \blacksquare = 3 \quad \text{?} = \square$$

Every symbol is a whole number from 1 to 15. A number in front of a shape means multiply: 2 stars = 2 x star.

2 FIND THE MISSING VALUES

Some shapes in the key are missing. Use these to work them out, in order, and write them into the key.

$$\blacklozenge + \blacklozenge = 19$$

$$\text{?} \times \blacklozenge = 112$$

$$\heartsuit \times \blacksquare = 36$$

3 CRACK THESE

$$1. \ 3\heartsuit + 2\text{?} = \square$$

$$2. \ 3\text{?} + 2\blacklozenge = \square$$

CODE 1

$$3. \ (\heartsuit + \blacklozenge) \times \text{?} = \square$$

$$4. \ \blacklozenge \times \blacklozenge = \square$$

CODE 2

$$5. \ \blacklozenge \times \heartsuit = \square$$

$$6. \ (\blacklozenge + \blacklozenge) \times \heartsuit = \square$$

CODE 3

$$7. \ (\heartsuit - \blacklozenge) \times \blacklozenge = \square$$

$$8. \ (\blacklozenge - \blacksquare) \times \blacklozenge = \square$$

CODE 4

$$9. \ \heartsuit \times \blacklozenge + \blacklozenge = \square$$

$$10. \ \blacklozenge \times \blacklozenge - \blacklozenge = \square$$

4 THE VAULT CODE

Write the ONES digit of your answers to problems 2, 4, 6, 8 (the ones tagged CODE 1-4), in that order. That opens the glittering star-stone vault.

Answer Key

Caticorn Castle Math Mission · Grade 4 Crack the Code

The key

 diamond = **14** (hidden)
  heart = **12** (hidden)
  pentagon = **5**
  hexagon = **9**
  square = **3**
 moon = **8** (hidden)

Every symbol is a whole number from 1 to 15.

- | | | |
|-----|---|------------|
| 1. | $3 \heartsuit + 2 \text{☾}$ (3 x heart + 2 x moon) | 52 |
| 2. | $3 \text{☾} + 2 \text{⬠}$ (3 x moon + 2 x pentagon) | 34 |
| 3. | $(\heartsuit + \blacklozenge) \times \text{☾}$ ((heart + diamond) x moon) | 208 |
| 4. | $\blacklozenge \times \text{⬠}$ (diamond x pentagon) | 70 |
| 5. | $\blacklozenge \times \heartsuit$ (diamond x heart) | 168 |
| 6. | $(\text{⬠} + \blacklozenge) \times \heartsuit$ ((hexagon + diamond) x heart) | 276 |
| 7. | $(\heartsuit - \text{⬠}) \times \text{⬠}$ ((heart - hexagon) x pentagon) | 15 |
| 8. | $(\text{⬠} - \blacksquare) \times \blacklozenge$ ((hexagon - square) x diamond) | 84 |
| 9. | $\heartsuit \times \text{⬠} + \blacklozenge$ (heart x pentagon + diamond) | 74 |
| 10. | $\text{⬠} \times \text{⬠} - \blacklozenge$ (pentagon x hexagon - diamond) | 31 |

Vault code: **4 0 6 4**